

What Is Claimed Is:

1. An isolated nucleic acid molecule comprising a polynucleotide selected from the group consisting of:

(a) a polynucleotide encoding a polypeptide having an amino acid sequence as shown in Figure 1 (SEQ ID NO:2);

(b) a polynucleotide encoding a polypeptide having an amino acid sequence as encoded by the cDNA contained in ATCC Deposit No. 97612;

(c) a polynucleotide encoding a TIF2 polypeptide fragment comprising amino acids 624-869 as shown in Figure 1 (SEQ ID NO:2);

(d) a polynucleotide encoding a TIF2 polypeptide fragment comprising amino acids 624-1131 as shown in Figure 1 (SEQ ID NO:2);

(e) a polynucleotide encoding a TIF2 polypeptide fragment comprising amino acids 1010-1131 as shown in Figure 1 (SEQ ID NO:2);

(f) a polynucleotide that encodes a TIF2 polypeptide fragment comprising amino acids 1288-1464 in Figure 1 (SEQ ID NO:2);

(g) a polynucleotide having a nucleotide sequence at least 90% identical to the nucleotide sequence of any of the polynucleotides of (a)-(f);

(h) a polynucleotide that hybridizes under stringent conditions to any of the polynucleotides of (a)-(g) or the complement thereof;

(i) a polynucleotide fragment of any of the polynucleotides of (a)-(h), wherein said fragment is at least 15 bp in length; and

(j) a polynucleotide having a nucleotide sequence complementary to the nucleotide sequence of any of the polynucleotides of (a)-(i).

2. The isolated nucleic acid molecule of claim 1, wherein said polynucleotide is DNA.

3. The isolated nucleic acid molecule of claim 1, wherein said polynucleotide is RNA.

4. The isolated nucleic acid molecule of claim 1, wherein said polynucleotide encodes a cytoplasmic TIF2 polypeptide fragment.

5. The isolated nucleic acid molecule of claim 4, wherein said TIF2 polypeptide fragment is selected from the group consisting of TIF2.1, TIF2.2, TIF2.3, TIF2.4, TIF2.5, TIF2.6, TIF2.7, TIF2.8, TIF2.9, and TIF2.12.

6. A method for making a recombinant vector comprising inserting the isolated nucleic acid molecule of claim 1 into a vector.

7. A recombinant vector produced by the method of claim 6.

8. A method of making a recombinant host cell comprising introducing the recombinant vector of claim 7 into a host cell.

9. A recombinant host cell produced by the method of claim 8.

10. A recombinant method for producing a polypeptide, comprising culturing the recombinant host cell of claim 9.

11. An isolated polypeptide selected from the group consisting of:

(a) a polypeptide having an amino acid sequence of the TIF2 polypeptide comprising the complete amino acid sequence as shown in Figure 1 (SEQ ID NO:2);

(b) a polypeptide having an amino acid sequence comprising residues 624 to 869 as shown in Figure 1 (SEQ ID NO:2);

(c) a polypeptide having an amino acid sequence comprising residues 624-1131 as shown in Figure 1 (SEQ ID NO:2);

(d) a polypeptide having an amino acid sequence comprising residues 1010-1131 as shown in Figure 1 (SEQ ID NO:2);

5 (e) a polypeptide having an amino acid sequence comprising residues 1288-1464 as shown in Figure 1 (SEQ ID NO:2);

(f) a polypeptide which is at least 90% identical to any of the polypeptides of (a-e);

10 (g) a polypeptide having an amino acid sequence comprising residues 641-645 as shown in Figure 1 (SEQ ID NO:2);

(h) a polypeptide having an amino acid sequence comprising residues 690-694 as shown in Figure 1 (SEQ ID NO:2); and

(i) a polypeptide having an amino acid sequence comprising residues 745-749 as shown in Figure 1 (SEQ ID NO:2).

15 12. The isolated polypeptide of claim 11, wherein said polypeptide is a cytoplasmic TIF2 polypeptide fragment.

13. The isolated polypeptide of claim 12, wherein said fragment is selected from the group consisting of TIF2.1, TIF2.2, TIF2.3, TIF2.4, TIF2.5, TIF2.6, TIF2.7, TIF2.8, TIF2.9, and TIF2.12.

20 14. A screening method for identifying a nuclear receptor (NR) antagonist, which comprises:

(a) providing a host cell containing recombinant genes which express a polypeptide comprising a NR ligand binding domain (LBD) and a polypeptide comprising transcriptional intermediary factor-2 (TIF-2) or a TIF-2-fragment, wherein, in the presence of an agonist, said TIF-2 and said TIF-2-fragment bind said NR LBD and are capable of activating transcription;

25 (b) administering a candidate antagonist to said cell; and

(c) determining whether said candidate antagonist reduces either: (1) TIF-2- or TIF-2-fragment-binding to the AF-2 of said NR LBD as compared to said binding in the absence of said candidate antagonist; or (2) TIF-2- or TIF-2-fragment-stimulated NR LBD AF-2-mediated transactivation as compared to said transactivation in the absence of said candidate antagonist.

15. A screening method for identifying a nuclear receptor (NR) agonist, which comprises:

(a) providing a host cell containing recombinant genes which express a polypeptide comprising a NR ligand binding domain (LBD) and a polypeptide comprising transcriptional intermediary factor-2 (TIF-2) or a TIF-2-fragment, wherein, in the presence of an agonist, said TIF-2 and said TIF-2-fragment bind said NR LBD;

(b) administering a candidate agonist to said cell; and

(c) determining whether said candidate agonist enhances either: (1) TIF-2- or TIF-2-fragment-binding to the AF-2 of said NR LBD as compared to said binding in the absence of said candidate agonist; or (2) TIF-2- or TIF-2-fragment-stimulated NR LBD AF-2-mediated transactivation as compared to said transactivation in the absence of said candidate agonist.

16. The method of claim 14, wherein said host cell further expresses a reporter gene.

17. The method of claim 15, wherein said host cell further expresses a reporter gene.

18. The method of claim 14, wherein said host cell expresses a polypeptide comprising a NR LBD and GAL4.

19. The method of claim 15, wherein said host cell expresses a polypeptide comprising a NR LBD and GAL4.

20. An isolated antibody that binds specifically to an isolated polypeptide according to claim 11.

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